



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

it lies in the progress of reason and knowledge. The advancement of physical science destroys the thousand errors and delusions, which spring from ignorance of physical causes; since the days of Franklin, the veriest simplicity is in no danger of mistaking lightning for the exhibition of a malignant demon's influence; and a child may laugh at the grave pretensions of astrology. In the same proportion as this knowledge is diffused, is intellectual and moral science aided in its progress; each in its measure, promotes and cherishes the other; each and all carry on the great work of improvement, urging us onward to the attainment of the end of all true science, the elevation, if we may not say the perfection, of our nature. We conclude, with borrowing on this point the intelligent remarks of Dr. Thacher.

‘The present is an era, pre-eminently distinguished for improvement in physical and moral philosophy; and forgetting the things that are behind, we are pressing forward in the race with rapid strides to the melioration of the condition of the physical and moral world. Had the stupendous works performed, and those contemplated at the present day, been predicted to our fathers in the seventeenth century, they would have trembled with alarm, lest their posterity were destined to form a league with the infernal powers. The paralyzing idea, that the present state of knowledge is as perfect as our nature will admit, should be utterly reprobated; for knowledge is eternally progressive; and we can have no claim to be estimated as the benefactors of posterity, unless by our own efforts and toils we add to the achievements of our ancestors.’

---

ART. X.—*Effects of Machinery.*

*The Working Man's Companion, No. 1. The Results of Machinery, being an Address to the Working Men of the United Kingdom.* pp. 216. American Edition. Philadelphia. 1831.

This little book was published under the superintendence of the Society for the Diffusion of Useful Knowledge. Its object is to convince the working men of the United Kingdom, of the folly and wickedness of attempting to arrest the progress of improvement, by the destruction of machinery. It is written in a plain, unadorned style, but it is replete with valuable facts,

and strong and persuasive reasoning. We commend the book to all croakers,—to all praisers of the past and revilers of the present time. We ask a careful perusal of it, of those venerable grand-mothers who see misery and ruin close at hand, because the sound of the spinning-wheel and the loom is no longer heard in all our farm-houses.

In the present article, we shall attempt an independent and somewhat enlarged discussion of the principal questions, presented in this work. We shall not confine our attention to ‘cheap production and increased employment,’ alone; but shall endeavor to trace the influence of machinery farther, in its effects on society. The question is, is this influence,—confessedly, and beyond calculation, vast,—good or evil? This has been said to be ‘a far more difficult and complex question, than any that political economists have yet engaged with.’ Its importance and interest are certainly not exceeded by its difficulty and complexity. The first arise from the intimate connexion of the influence of machinery with every other influence, that affects the social condition of man, and the last are shared by it in common with every other question, relating to matters yet imperfectly understood. It is embarrassed by being complicated with a number of considerations, not necessarily belonging to it, and because it requires, in those who would resolve it, a larger amount of contemporary information, than is generally, or can be easily, acquired.

We look upon the knowledge of the present circumstances of society, of the transactions of our own age and country, of modern science and modern art, as more important than any other. Yet it is precisely the sort of knowledge, of which, until very recently, we have had least. We would not be understood to undervalue any species of knowledge. Every kind of information is precious. We would only say, that that which instructs us, where we are, what we are, and how we are, has peculiar value. It is true, that to know the present, we must be, in some degree, acquainted with the past. To understand the result, we must have knowledge of the cause. To foresee consequences, it is necessary to know how consequences have been heretofore produced. What we complain of is, not that we know too much of what has been, but that we do not know enough of what is;—not that we are too familiar with the past, but that we are not familiar enough with the present. And we would go so far as to say, that, if any

part of knowledge were to be given up, it would be better to let alone the study of what happened before we were born, and the conjecture of what is to happen after we are dead, and confine our view within the horizon of our present existence. It was demanded of the Spartan king, 'what study is fittest for the boy?' His answer was, 'that of the science most useful to the man.' Utility measures the value of knowledge, as of every thing else; and surely, on the scale of utility, the knowledge of what is all around us, affecting us, physically, intellectually, and morally, in countless ways, ranks far higher than the knowledge of the circumstances of preceding generations.

It has not been the fact, however, that men have applied themselves to the study of their own times, with as much earnestness, as to the investigation of the records of the past. It has always been extremely difficult to obtain contemporary information of events. Intelligence has been transmitted from point to point very slowly. And when it has finally reached its destination, it has come in so questionable a shape, that its authenticity could by no means be relied on. The consequence has been, that men of learning and study have turned away from so unpromising a field of research. Almost all writers, except those whose business was politics, have occupied themselves in other tasks. It was a natural consequence, that science became speculative rather than practical. The object of study was rather to gratify the instinctive desire of knowledge, than to strike out a light to guide the conduct, or to discover the means of improving the condition of man. And thus men, instead of believing that they were intrusted by Providence with the care of their own fates, have been accustomed to think of themselves, as embarked, without a rudder, without a sail, without an oar, upon the stream of destiny, hurried on, they know not how, and destined to arrive, they know not whither.

But there is a better philosophy than this,—a philosophy that attributes more to men and less to circumstance. It teaches that knowledge is for use, and not for ostentation. It teaches that the great events, which crowd the historian's page, are beacons kindled by those who have gone before us, illuminating the scene of present things, and dispelling, partially at least, the shadows, clouds, and darkness, that over-hang the future. Intelligence of recent events is now communicated with a degree of certainty and rapidity, utterly unknown hitherto. The best intellects are employed in the observation of the passing

pageant of existence. The importance of each occurrence is immediately ascertained; its proper place in the system of events is fixed, and the fact, with the reasoning that links it to the past and the future, is communicated to the public, through the periodical press. It is true that the fact is yet frequently mis-stated, and the reasoning about it often erroneous; but, on the whole, truth greatly prevails; and the present age is doubtless better acquainted with itself, than any which have preceded it.

Still, this acquaintance, this self-knowledge, an attainment, by the way, quite as important to nations as to individuals, is extremely imperfect and superficial. A reflecting man who looks around him, upon the countless agencies, operating with different degrees of energy, for good or for evil, upon the condition and character of men, wherever man exists, cannot help feeling how little is known of things as they are. What we hear about the age in which we live, is quite too vague and general, to satisfy a rational curiosity. We hear it called the age of improvement, the enlightened age, the age of practical benevolence. But we want a deeper and more extensive knowledge, than these epithets convey. We want something more, than a mere map of the surface of society. We want a deep, intimate, pervading knowledge of the circumstances of man's actual condition, and of the influences, whether friendly or adverse, which are acting on his character. Men are divided now into a far greater number of classes, than they have ever before been. We want to know why this is so. All the classes stand much more nearly on the same level, than formerly. Rulers are no longer more, and the ruled are no longer less, than men. The divisions now are not so much of high from low, as of equals from equals. This is a glorious change for the better. We want to understand its nature, cause and extent. But this understanding we have not yet fully attained. We are yet very far from having attained it. And it is this imperfection of our knowledge, rather than any inseparable obscurity belonging to them, that darkens so many questions of deep and vital importance. It is this that makes it so difficult, to point to the cause and effect of a contemporary event, and to decide upon the complexion and tendency of existing circumstances.

Of the questions, relating to the present interests and deeply affecting the present happiness of society, not one, probably,

gathers into itself a greater consequence, and certainly, not one ought to excite a livelier concern, than that which we now propose to discuss. This subject is intimately connected with the great topic of human progress. The experiment of machinery has multiplied relations to the condition and prospects of our race. It is a new and almost infinite power, brought to bear on the action of the social system. And, in proportion as it would be consoling and delightful to have reason to believe, that, under the influence of these new impulses, society is advancing and will continue to advance, with swift and constantly accelerating progress, towards the ultimate limits of human improvement; so would it be mortifying, and beyond expression painful, to be driven to acquiesce in the gloomy doctrine, which represents all these new and powerful agents as only working out for man, deeper and deeper wretchedness and degradation.

This question may be more advantageously discussed in our country, than in any other. The experiment of machinery may have a fairer trial here, than elsewhere. The natural course of industry is not obstructed here, in any great degree, by unwise legislation. The profits of labor are secured to the laborer. The burthens of taxation are light. The highest motives to exertion operate upon every man in the community. In short, a nearer approach has been made here, than any where else, to a government that protects all, and injures none; that leaves every one at full liberty to benefit himself, so far as it can be done without injury to others; that takes off every weight and fetter from individual energy, while it restrains all hurtful excesses, and restrains them rather by the fear of public opinion, than the fear of punishment. In such a state of society, every new impulse given to the public mind,—every new agent introduced to further the operations of labor,—exhibits at once its real character and tendency. In such a state of society, the moral action of machinery is not liable to what natural philosophers call the influence of disturbing forces. It operates without restraint, and produces its appropriate effects. It is not complicated with other influences. It has a simple unmodified action of its own, unaffected by the movements around it. Here, therefore, we may ascertain, with comparative facility, what this action is, and what are likely to be its results.

Some of our readers may be surprised, that so much import-

ance and difficulty should be ascribed to this question. They live in the midst of machinery. They see machinery at work on every side, abridging the processes of labor, and making the difficult easy. They are accustomed to regard this subjection of the powers of nature to the will and direction of man, as a splendid triumph of the intellect, and as altogether and unquestionably beneficial in all its tendencies. It is natural, therefore, that they should be astonished when it is made a question. It seems to them quite too plain a matter to admit of argument. But let these persons look abroad. There they will find men, and men too held in high repute for wisdom and honesty, who think and say, that, to those who depend upon their daily labor for their daily bread, or, in other words, to four fifths of almost every nation on the globe, the introduction of labor-saving machinery is a grievous curse. These men will bid them look for a commentary on the influence of machinery, to the condition of the English laborers. They will bid them to ask the half-clothed and half-fed workman, what is his opinion on this subject? They will say to them, 'Inquire of those distracted parents, why they deny food to their famishing offspring? Demand of the whole body of the working classes, what is the cause of this deep, wide-spread distress, which pervades the land like a pestilence, carrying dread to every bosom? Why is Government alarmed? Why is the Church directed to offer up supplications to Heaven, to avert from England the horrible calamities of intestine discord and war? A glance at the condition of the country will answer these questions. There are multitudes of workmen, who either have no employment at all, or labor for wages altogether inadequate to the necessities of existence. This want of employment, and these low wages, are occasioned by the introduction of machinery. The laborers have, of course, become uneasy and discontented. Their irrepressible discontent has at length broken out into open violence. They begin to destroy the machinery. The sure instinct of revenge directs them to the cause of their sufferings. But they do not stop here. They attack the property of their employers, or rather, as they think, their tyrants. Those conflagrations, converting midnight darkness into unnatural day, are their work. There is reason that Government should be alarmed. They are alarmed. They have made strong efforts to arrest the progress of disaffection. The iron arm of power has been stretched out to

punish the excesses of these wretched men. Nothing is pardoned to ignorance. Nothing is forgiven to misery. Many have been sentenced to transportation,—many to imprisonment,—many to death. Yet all this avails nothing. Disaffection and disquiet still spread and strengthen. No man is able to foresee what will be the end of these things. This,' these honest and intelligent persons will say, 'is in truth a terrible picture of present and impending calamity. But it is only a faint shadow of the real state of things. And if the vengeance of those unfortunate men be not mis-directed,—if, as we believe, machinery be the fruitful mother of all these woes, then, surely, its introduction into such general use cannot be too earnestly deplored.'

It requires no effort of the imagination to suppose this to be the present language of that numerous and highly respectable class of men, who think that the influence of machinery on society is evil and pernicious. There is, however, another class, equally numerous and respectable, who hold the contrary opinion. These persons ascribe the distress, that afflicts the laboring classes of England, and some other portions of Europe, to other and more deep-lying causes, than the introduction of machinery. 'The real springs of all these evils are to be sought for,' they say, 'in vicious political institutions, in unequal laws, and grinding taxation. These are the true fountains, which send forth poisonous and bitter waters. Machinery multiplies the comforts and conveniences of life. Is this an evil? Machinery lightens the burthens of labor. Is relief from the necessity of hard work, a grievance to the laboring classes? No doubt, like every other great power, machinery may be converted into an instrument of great oppression. But it is not such naturally. In itself it has been always, and, under well regulated Governments, it always will be a source of great good,—of good almost unmixed. The evils necessarily incident to its introduction, are slight, partial, and transient. They reach only the surface of society, affect but small portions of the community, and speedily pass away. The benefits arising from the same source, are substantial, universal, permanent. They are seen every where, felt every where, and must abide forever.'

Such is the conflict of opinions on this subject. Where there is so much disagreement, it becomes him, who would share in the discussion, to advance his sentiments with diffidence. We



do not dogmatize. We assume the attitude of inquirers, rather than of teachers. We shall be satisfied, though none should be convinced by our labors, if we induce any to examine the subject for themselves,—a subject, which it is important that every man in our community should thoroughly understand. It has not been much discussed, particularly in this country. The general sentiment is decidedly, so far as we have been able to ascertain it, in favor of machinery. A few apostles of the opposite doctrine have arisen here and there; but their converts have not been numerous. Recently, we have observed in some quarters, a disposition to make machinery bear the sins of the tariff; to establish the fact of a partnership between the two, and to make the former responsible for all the faults, real or imaginary, of the latter. We apprehend, that it would not be difficult to demonstrate the absurdity of this notion. We cannot, however, spare more space than is required for the simple statement, that it is groundless. And now, we shall let alone the opinions of others, and proceed to put our readers in possession of our own views on this important subject.

In the earliest ages of society, machinery was unknown. Man was created in a climate where the earth yielded bountifully at all seasons of the year, her productions for his use. Then, his only labor was to gather from Nature's abundant store, the supply of his present want. Afterwards, he began to cultivate the soil, and then, probably, some simple instrument of culture was invented. At a still later period, his Creator invested him with dominion over the life of living creatures; and, to enable himself to exercise this new authority, he invented, also, rude instruments of hunting and fishing. These are all arts of absolute necessity. Without them, man could not exist, except in the mildest climates, and there only in small numbers. Beyond these arts, a large proportion of the human race have made no great advances. The only additional skill, yet attained by many tribes of the human family,—the skill to make rude clothing and to build rude huts to protect them from the inclemency of the weather,—has been taught them by stern necessity. In their circumstances, each individual of the society must labor for his own subsistence, and all hope of intellectual or moral improvement seems entirely cut off.

From time to time, however, in different parts of the world, there have been communities, which have risen far above this condition. Assyria, Persia, Egypt, Greece and Rome felt,

by turns, the genial influence of improvement. And it is worthy of remark, that, wherever, over the whole earth, the light of civilization has once dawned, some rays of that light linger yet,—the utter darkness of absolute barbarism has never returned. It cannot wholly return. The law of man's nature, impressed on him by his God, is onward progress; and let a nation but once rise into the light of civilization, and then, however low adverse circumstances may afterwards thrust them down, they will never sink into utter night, nor will they ever cease to strive to re-ascend to day. It is also worthy of remark, as illustrative of this law, that these nations made different degrees of progress, and that each advanced farther in improvement than the preceding. The light shone faintest, where it first dawned, on Assyria,—its brightest effulgence illuminated Rome. It was a progressive illumination,—faint and hardly perceptible at first,—then gradually receiving greater and greater accessions of splendor. Now, in our day, it has flashed out into a broad, bright, and glorious effulgence, encompassing and illuminating more than half the globe. But of this hereafter. Our present business is with the cause of all this. Civilization never takes place without the accumulation of the material products of labor. Different causes may produce this accumulation. The hand of violence may gather the spoils of rapine, and manual labor or mechanical contrivance may heap up the store of industry. The two first of these causes, but more particularly the first, procured an abundance of the necessities and luxuries of life to the states of antiquity; and were, therefore, the principal agents in the work of civilizing those states. Mechanical contrivance exerted a similar, but, at first, almost imperceptible influence, increasing the stores of wealth, and thus helping forward the progress of civilization. The experiment of machinery, however, as a substitute for human labor, employed in producing and increasing the comforts of life, was never tried on a great scale by the nations of antiquity. That was reserved to be the distinction of modern times. The glory of compelling the powers of Nature into the service of man, was destined to grace our own age. And, as the spoils of these bloodless victories have been far greater than ancient conquest ever gained,—as the accumulation of wealth, by the new agents that have been employed in the task, has been far more rapid than was ever known in former times, through the instrumen-

talities of any agent whatever, so civilization has, in these latter days, spread far more widely, and penetrated much more deeply, than ever before; reaching, not one nation only, but many, and bestowing its invaluable benefits, not upon a favored portion merely, but upon the whole of society. We would not say, that machinery has been the only efficient agent of modern civilization. We do not so believe. There have been moral agents at work. They have effected much; but without the aid of machinery, they could not have effected much. What we claim for machinery is, that it is in modern times by far the most efficient physical cause of human improvement; that it does for civilization, what conquest and human labor formerly did, and accomplishes incalculably more than they accomplished. And how different are the characters of these three agents! War, the direst curse of humanity, must necessarily precede conquest; and the structure of civilization, reared by this agent, rises upon the spoil, the desolation, and the anguish of the vanquished. Human labor, when urged to excessive efforts, must necessarily, to a considerable extent, prevent intellectual and moral improvement. But machinery, doing the work, without feeling the wants of man; taking from none, yet giving to all, produces almost unmingled benefit, to an amount and extent, of which we have as yet, probably, but a very faint conception.

There are several objections to this general view of the effects of machinery, which we shall now examine. The first and principal one is, that all labor-saving inventions diminish the demand for human industry, and, consequently, deprive multitudes of laborers of employment. We meet this objection by denying the fact. It is not true, that the demand for human industry is diminished. It is not true, that multitudes of laborers are absolutely deprived of employment. It is true, however, that many laborers are sometimes compelled to change their employment, by the introduction of new and improved machinery into a branch of industry, where a great deal of human labor had been previously required. And it is true, that sometimes, while this change is in progress, a great deal of suffering is experienced. All this we shall attempt to explain.

The earth is the great primary source of the supply of human wants. It is the great laboratory, where the dust we tread upon is converted into life-sustaining nutriment. Whatever we eat, or drink, or wear, comes originally from her bosom.

In the earliest stages of society, as has been already said, men consume her productions in their simple state. The springs supply them with water to drink. They eat the fruits of the field, and clothe themselves with leaves and skins. In this savage state, each one supplies his own wants, and it takes all his time to do it. But, after a while, some one more lazy or more ingenious than the rest, discovers some method of lightening his individual labor. Then others imitate him ;—and, in time, machines are invented, that seem likely to supersede the necessity of human labor altogether. This would, in fact, be the result, if, in this condition of things, men should consume no more of the products of industry than before ; and, of course, a multitude who had been actively employed would be employed no longer. But such is not the fact. The cravings of desire are never satisfied. Extend the supply as you may, the wish for the enjoyments of life will still go beyond it, and will find its only limit in the means of gratification. The only effect, therefore, of increasing the productive energies of labor, by the introduction of machinery, is to distribute it into more numerous departments. A few years ago, those, who roamed through the regions in which we now dwell, exercised, all of them, the same employments. Each one performed his own labor. No one was, in any great degree, dependent on another. How different is the condition of things now ! Hardly an individual, of the millions congregated here, produces, himself, the hundredth part of what is required for his own subsistence. The departments of industry are multiplied. The laborers in each are under a tacit obligation to contribute their proportion to the great fund of human subsistence and enjoyment. Each one works for all the rest, and all the rest work for him. In the savage state, all were hunters and fishers ; now, some cultivate the ground, some construct machines, some make clothing, some build houses, some make laws, and some preach sermons. Each fills his appropriate place, the amount and the products of human industry are incalculably increased, and the action of the great social system goes on safely and harmoniously.

The effect of machinery upon labor may be illustrated by an example. We will take the printing-press. It is difficult to conceive what was the condition of society, when there was no printing. We can almost as easily imagine the condition of

the world, when there was no light. Yet we know that there was such a time. Then the copyist performed the printer's work. Books were published by copying them out with a pen. A considerable number of persons were employed in this business, and a considerable number more found employment in the preparation of the materials for copying. Books published in this way were, of course, very expensive. The whole annual income of a man in moderate circumstances would hardly buy a Bible. None but princes and very rich men could afford to purchase libraries. Hence, the demand for books was extremely limited, and the number of persons employed in furnishing them, must have been regulated by the state of the demand.

When the printing-press was introduced, an extensive change took place. Books were multiplied. The price fell. Readers became more numerous. The demand for information became more urgent. Knowledge began to diffuse her healing beams every where, and an impulse was given to society, that has ever since continued to grow in energy and power. But this is not the result,—though an important and a glorious one,—that claims our consideration now. What we would now press upon the attention of our readers, is the effect of this machinery upon human industry. Is there more or less of human labor employed in furnishing books, since the press has lent its mighty aid to the work, than before? Where was then one author, there are now, at least, one hundred. It has been calculated that in Germany, one out of every hundred of the whole population, is an author. Instead of a few hundred copyists, and a few hundred manufacturers of materials for copying, there are thousands and tens of thousands of persons, who obtain a living by making types, presses, and paper, by printing books, by binding them when they are printed, and by selling them when they are bound. It is no exaggeration to say, that this business employs many hundred times as much human labor, as it did before the printing-press was invented.

In this instance, then, the demand for human industry has not ceased nor diminished, but is greatly augmented in consequence of the introduction of machinery. Nor does it seem to be possible that any other effect than this can be produced, until every department of industry,—when industry shall have subdivided itself into the greatest possible number of de-

partments, whether moral, intellectual, or physical,—shall be overstocked, and every want of man more than supplied. This can happen only when man shall cease to improve ;—a period, to which no philanthropist would wish to look forward.

But if this be so, some may urge, why is it that almost every where, when machinery has been introduced on a large scale, the working classes have uniformly evinced dissatisfaction and hostility ? Why did they destroy the spinning-jennies in Normandy ? Why are they now destroying the threshing machines in England ? Why did the printers of Paris, after the recent revolution, go about destroying the steam-presses ? Why did they petition the Legislature, that their use might be prohibited by law ? The obvious answer to all questions of this sort is, that the working classes, especially of Europe, are not apt to distinguish between present inconvenience and permanent evil. They are not very far-sighted. They do see and feel the drenching and pelting storm ; but they do not see, even in remote anticipation, the renovated beauty of nature, when the storm has gone by. No well-informed person ever denied, that the introduction of machinery may occasion temporary inconvenience. If a man, who has been accustomed to employ twenty workmen, procure a machine, which, with the aid of one, will do the work of the twenty, nineteen, of course, must be deprived of employment. When this takes place on a small scale, the inconvenience is not great. The little labor that is turned out of its accustomed channels, is almost immediately absorbed by other employments. Every trace and vestige of evil at once disappears. When, however, the experiment is made on a grander scale,—when a great number of machines, superseding the necessity of a vast quantity of human labor, are suddenly brought into use, the consequences are more serious. A multitude of laborers are, at once, thrown out of work. They find it difficult to obtain other employment, and in fact are, in some measure, unfitted for it by their previous occupations. They have no resources but their labor. Their daily wages supply their daily sustenance. Want of work instantly reduces them to beggary ; and, sometimes, under these circumstances, their distress is great. The same effect is produced by over-production. A farmer may grow as much in one year, as he can dispose of in two. A manufacturer may, in like manner, have a superabundant stock of goods on his hands. Neither will be likely

to go on producing at the same rate as before. Some of their workmen must be discharged ; and then the same consequences follow, as upon the introduction of labor-saving machines. These consequences will be imperceptible, if the over-production be slight and partial ; but if it be great and general, they will be plainly seen and deeply felt. Sometimes both the causes we have mentioned concur. Machinery substitutes bodies of iron, with souls of steam, to do the work of living men ; and the prospect of immense gain stimulates production to such an excess, that the markets of the whole world are glutted. This was the case with the cotton manufacture in 1825. Almost the whole of the machinery employed in this manufacture, has been invented within the last fifty years. When it had been introduced into general use, the same effects upon human labor followed, as in the case of the printing-press. The price of cotton fabrics was reduced. The demand for consumption increased, and the supply was extended to meet the demand. Some, who had been accustomed to spin and weave at home, lost their work ; but a greater number found employment in the factories. On the whole, the number of persons employed in this business, instead of diminishing, considerably increased. The inventions of 1816 had a great effect upon this state of things. Among other improvements, the power-loom was introduced. Requiring only the superintendence of a single individual, it performed the labor of numbers. Then, to use the language of an English writer, ‘on every hand the living artisan was driven from his work-shop, to make room for a speedier inanimate one. The shuttle dropped from the fingers of the weaver, and fell into iron fingers, that could ply it faster.’ These improvements in machinery, of course, occasioned a good deal of inconvenience and distress among the workmen ; and before these evils could be wholly cured by the natural operation of the causes which produced them, a heavier calamity was to happen. The manufacture, aided by the new inventions, went on with unabated,—with increased activity. The disproportion between the cost of production and the price of the manufactured article, gave immense profits. Millions were added to the millions already invested in the business. The production of the raw material kept pace with the extension of the manufacture. At length, the supply far exceeded the demand. The warehouses of the

world were filled. Prices suddenly fell to half of what they had been before. Multitudes were ruined. Thousands of families were reduced to beggary. Some manufacturers discharged a part of their workmen, while they retained the rest at reduced wages. Many ceased to struggle with the adverse torrent, and discharged all their hands, and shut up their factories. The distress that ensued may, perhaps, be imagined. We are not competent to describe it. To aid the conception of our readers, however, we will quote the language of one, who was an eye-witness of a scene of distress, occasioned by a similar, but slighter cause.

‘Within a small distance of my house,’ says this person, ‘is a large manufactory, the machinery of which extends nearly half a mile. I passed by it one morning, after its operations were suspended, and was exceedingly affected by the sight. A little while before, it was all animation and industry, affording honorable means of livelihood to many thousands of my fellow-creatures. The silence that now pervaded it spoke more eloquently and impressively to my heart, than any language could possibly do; it was the silence of unmingled desolation. I visited a row of houses occupied by the workmen. The doors were used to be open, inviting the eye of the stranger to glance, as he went along, at their neatness, cleanliness, and felicity. Little groups of healthful children were accustomed to appear about the cottages, full of merriment and joy; and the inhabitants, strong and healthy, saluted you as they went by. But the scene was lamentably changed. The cottages were closed. The inhabitants could not bear to have it known that they were stripped of their little ornaments. No children played about the doors. The very plants that were trained up in their windows, had pined and died. One man only appeared, emaciated and ghastly, a frightful spectre, as if the sepulchre had sent forth its inhabitants, to fill with terror the abodes of the living.’

It is not at all wonderful, that distress so sore as this should drive men to do what afterwards they are sorry for. Extreme misery impairs the moral sense. The distinctions of right and wrong are apt to be obscured and lost sight of, in the tumult and tempest of passion. Resentment is almost always blind. Its violence generally expends itself on the apparent cause of injury; while it seldom reaches the real cause. It so happened in this case. The laboring classes cried out against machinery, and some statesmen, too, joined in the cry, when the principal source,—by far the most fruitful source,—of calamity,



was an imprudent and excessive production, stimulated by high prices. Even this, however, is but a transitory evil. The bright and cheering beams of prosperity are intercepted only by a temporary eclipse. They are not quenched. They are not extinguished. When production ceases to be profitable, a part of the industry employed in it will be withdrawn. When other employment is found for it, the distress will vanish. And this will take place in a longer or shorter time, according to the circumstances of the nation, and the amount of labor thrown out of employment. In our country, neither the introduction of machinery, nor over-production, can occasion any extensive or permanent evil. The demand for labor is so urgent, that no man need be long out of work. Whenever the current of industry receives a check in one direction, the overflowing waters will immediately find an outlet in another. If machinery bear a part in occasioning distress, it also helps to remove it. If over-production do not irritate the wound, it will soon heal. The man who employs a machine, produces as much as he who employs living workmen. If there be a difference of expense in favor of the machinery, the former will make larger profits than the latter. He will grow rich faster. But he will not put his riches into a strong box. He will surround himself with additional comforts. He will employ a school-master. He will patronize the printer. He will travel and become better acquainted with his race. And thus, while he makes himself a far more useful and valuable member of society than before, he gives employment, in one way and another, to quite as much human industry, as his machine deprived of employment. Thus, from the same cause that produced partial evil, flows also universal good. The amount of productive industry of every sort is, in the end, vastly increased. It has been estimated, that the people of the United States and Great Britain, aided by the improved machinery of the present day, do as much work as could be done by the whole population of the earth, without that aid. And it needs but a glance at the condition of the working classes, (an epithet, which we use for want of one more appropriate to our meaning,) in our country, to convince the candid, that its influence, so far as its ultimate effect on human industry is concerned, is altogether salutary and beneficial.

We have given quite as much attention to the argument

against machinery, derived from its effects on labor, as it deserves. It is the strongest and most striking argument that occurs to us on that side of the question, and we wished to state it as fully, fairly, and forcibly as we could. But after all, is it certain that machinery occasions any distress, greater than would have existed, had machinery never been invented? We speak now of that improved machinery, which has, within the last century, so changed the aspect of the civilized world. Before this era, in many countries, the most affluent hardly enjoyed more comforts, than the poorest do now. The poorest classes depended upon servile labor, or an unskilful cultivation of the soil, for a scanty subsistence. They were miserably fed, clothed, and lodged. If they did not feel the wretchedness of their condition so acutely, as men similarly situated would now, it was because none of their neighbors fared much better. They

‘Saw no contiguous palace rear its head,  
To shame the meanness of their humble shed;  
No costly lord the sumptuous banquet deal,  
To make them loathe their vegetable meal;  
But poor, and bred in ignorance and toil,  
Each wish contracting bound them to the soil.’

But their ignorance was all their bliss. If the thick gloom which involved them, were not a darkness that might be felt, it was because there was no neighboring land of Goshen, where there was light. And to us, their lot seems to be far more worthy of commiseration, because far less susceptible of improvement than that of those, who, at the present day, occasionally experience temporary inconvenience and suffering from want of employment.

The next objection to machinery is, that its tendency is to gather wealth into masses, and widen the distance between the rich and the poor. It is easy to see how this may be the fact in England, where the statute of descents transmits the possessions of the father, almost unimpaired, to the eldest son. The accumulated acquisitions of one generation are handed down to the next, almost unbroken. The eldest son of a rich man must himself be wealthy; and, if he conduct his affairs with prudence, will leave his own eldest son master of a large fortune. The law closes up many of the outlets, by which wealth would otherwise be distributed through the community, and gathers it into the hands of a few. Thus a new order of

nobility is created, who have been styled, not inappropriately, the lords of the spinning jenny. It is not machinery, therefore, that widens the distance between the rich and the poor, into an almost impassable gulf, but this law,—a law hardly to be vindicated upon principles of sound policy, under any circumstances, but pernicious and dangerous in the extreme, to a manufacturing and commercial community. In our country, we have no such law, and no such consequences have attended the introduction of machinery. If a rich man, in these States, invest a large fortune in fixed machinery, when he dies, it becomes the property of all his children. Death relaxes the grasp that held the mass of acquisition together, and the law does not put forth its stronger grasp to prevent its natural dissolution. On the contrary, the statute of distribution pulls down the pile of wealth, which the father's industry had accumulated, and divides it among his offspring. It can seldom happen, that there will be enough to make them all rich. The consequence is, that nearly all the individuals of each successive generation, start in the race of life from about the same point; and they are the most successful in that race, who are the most intelligent and the most industrious. It is thus plainly impossible, that, while this statute continues in force, machinery can enrich the few and impoverish the many. Almost all of us have an equal chance to be benefited by its introduction. A machine feels no partialities. It works for one just as vigorously and efficiently as for another. And if any man in this country have no direct interest in machinery, it is simply because he can employ his means more advantageously in some other way. In nearly every instance, where machinery is extensively employed, there is a joint-stock concern. The property is divided into shares, and these shares are held by various individuals. The workmen themselves, who are employed in the manufactory, may, and not unfrequently do, possess an interest in the establishment. It is then little less than absurd to say, that machinery accumulates for the rich alone, while it still farther impoverishes those who are already poor.

A far more serious objection than this remains to be considered. It is alleged, that machinery gathers men together in large masses, confines them in unhealthy apartments, ruins their health, contracts their minds, and depraves their morals; that its wages, like the wages of sin, is death,—moral, intellectual, physical death. This is true in part, and in part it

seems to us to be false. It is true, that modern machinery can hardly be used to advantage, especially for manufacturing purposes, without collecting together large numbers of workmen. But it is not true, that these workmen must inevitably be 'crowded in hot task-houses by day, and herded together in damp cellars by night;' that they must toil in unwholesome employments twelve hours a day, and frequently a much longer time; that they must live without decency, and die without hope; that they must sweat night and day, keeping up a perpetual oblation of body and soul, to the demons of gain, 'before furnaces which are never suffered to cool, and breathing in vapors which inevitably produce disease and death.' To all these charges, in behalf of machinery we plead not guilty. They are not true. If they were, well might the genius of humanity be represented as looking on with drooping wings, and a countenance of mingled pity and despair. There would be room for pity. There would be reason to despair. If we admit these allegations to be just, we are driven to the conviction, that the fabric of national greatness, power, and prosperity, however goodly it may seem in its outward show, is but a gorgeous sepulchre, in which are buried the intelligence, the virtue, and the freedom of the mass of the population; that national wealth and national misery go hand in hand, linked together by the strong compulsion of fate, in gloomy yet inseparable companionship. It were better that a nation should remain forever poor and barbarous. Better, far better, that society should make no progress, than that a few should advance and ascend, by treading on the necks of all the rest.

But it is not a necessary, nor a natural consequence of the introduction of machinery, that this state of things should exist. Wherever it does exist, there must be bad laws or a bad Government. We witness no such scenes in our country. The poet, who should search those districts of our country, where machinery is most extensively employed, for images of wretchedness and want, would return disappointed from his quest. The political economist, who should go there for facts to sustain the gloomy theory we have alluded to, would perhaps become a convert to the opposite opinion. There, beautiful villages spring up suddenly, as if the earth had been touched by an enchanter's wand. There, are large and commodious buildings, filled with active machinery, and with intel-

ligent and contented human beings. Around, are their neat and convenient dwellings. There are a few shops, to supply them with a number of little foreign luxuries, which they can well afford to buy ; and a tavern, it may be, to furnish, not a resort for the idle and the dissipated, but rest and a temporary home to the weary traveller. There are the schools, in which the children and young persons are instructed how to act well their parts, as free citizens of a free republic. And there, last and best of all, is the church, where, on the sabbath, all, old and young, assemble reverently to worship God. This is no picture drawn from fancy. We have ourselves beheld the real scene, and can attest the verisimilitude of the sketch. And though, in the larger manufacturing towns and cities, a part of these advantages can hardly be enjoyed, yet we may safely appeal to the character and condition of our manufacturing population throughout the whole country, as a standing and unanswerable refutation of the objection, which we have been considering.

We have now done with objections, and will pass to other considerations. We will now say something of the more general effects of machinery ; and first, of the vast accession which has been made to the productive energies of labor, and the consequent vast augmentation of the products of industry. The necessities, the comforts, and the luxuries of life are now produced in unparalleled profusion. The effect of abundant supply is to make articles cheap. Every man can now provide for his wants, and the wants of those dependant on him, in a much easier way, and at a much cheaper rate, than ever before ; and the happy consequences of this state of things are visible in the improved condition of all classes of civilized society. But it is not in this point of view, that we chiefly delight to contemplate the effects of machinery. Its influence on the physical condition of man is doubtless very great ; but its influence on his intellectual condition is greater. Not only are men in general better fed, better clothed, and better lodged than formerly, but, what seems to us to be a matter of infinitely greater moment, they are far better taught than formerly. Machinery has released some from hand-work, who have applied themselves to head-work. Machinery has supplied them with the means of communicating the results of their industry to the world. Thought is no longer restricted to the narrow circle around the thinker. Machinery has furnished better methods

of sending it abroad, than speech. Art has been called in to assist nature. The speaker yields to the writer. The tongue is vanquished by the pen. No power can long preserve, or extensively diffuse spoken words, however eloquent. Write them out and give them to the printer, and if they are worthy of it, they will spread every where and live forever. Formerly, Cicero thundered in the Roman forum, in the midst of the proud monuments of his country's victories, and surrounded on all sides by the altars of his religion, to an audience, that shuddered, and kindled, and quailed, and burned, as he spoke. But when his oration was ended, it was forgotten by the multitude. Some burning thought might be stamped upon the memory. It might pass into a proverb, and be handed down by tradition. But that would not transmit his fame to future times. Had not Cicero written his orations, we should have known little more of him, than that he was a great orator, and that he lived and died in the latter ages of the Roman republic. He did write them, however; but even then, how limited was the circulation, which the copyist alone could give them!

Very different is the case now. A great orator rises in the British parliament. Every word, as it falls from his lips, is caught and written down. Early the next morning, the press gives wings to his thoughts, and sends them abroad, by the aid of the multiplied machinery of conveyance, to traverse regions, and to kindle minds, where Cicero did not even dream that it was possible for man to exist.\* The epithet, 'winged words,' seems no longer Homeric, but familiar and common-place. In a month's time, they reach New York. In less than a fortnight more, they are descending the Ohio and the Mississippi. In the mean time, they have been passing across the channel, into France, Spain, and Germany, learning new languages as they rush along. They make the circuit of the world. They are heard in India, in Australia, and in the isles of the Pacific ocean. Thus a great thinker and speaker, without the press can do little, against it, nothing; but with its aid, he is like the sun,

---

\* Tu enim quam celebritatem sermonis hominum, aut quam expetendam gloriam consequi potes? Vides habitari in terra raris et angustis in locis; et in ipsis quasi maculis, ubi habitatur, vastas solitudines interjectas; hosque, qui incolunt terram, interruptos ita esse, ut nihil inter ipsos ab aliis ad alios, manare possit. Num aut tuum aut cujusquam nostrum nomen, vel *Caucasum hunc*, quem cernis, transcendere potuit, vel *illum Gangem* transnatare? *Somnium Scipionis.*

light radiates from him in all directions, and diffuses itself through space. It may be said of him, without hyperbole, that his words go into all the world, carrying with them a momentous influence for evil or for good. By the side of this tremendous energy, every other power becomes insignificant. It proceeds from mind, and acts upon mind, and it is the chief glory of machinery, that it conveys its impulses to the remotest quarters of the globe. And this power is not conferred only on the great orator and statesman, who stands conspicuously out from the mass of his fellow-men. It is shared, in different degrees, by all who have thoroughly awakened their own immortal energies of mind and spirit. It may emanate from the closet of the poorest student, and be of force to revolutionize an empire. It has been truly, as well as forcibly said, by an illustrious man of our own age and nation, that ‘one great and kindling thought, from a retired and obscure man, may live when thrones are fallen, and the memory of those who filled them obliterated, and, like an undying fire, illuminate and quicken all future generations.’

But not only has machinery set free from the necessity of labor, many to teach, but a far greater number to be taught. Let the machines, which now supply the wants of the nations, be destroyed, and it requires no prophetic skill to foresee, that, at the same time, the school-houses will be emptied. Let it be imagined, if any are able to imagine, that every machine, for the furtherance of the operations of labor, is destroyed, and that all memory of the mode of their construction is blotted from the mind, and then let us be told, whether we should not, almost at once, sink back into barbarism. Now, thousands are instructed, where one was formerly. Knowledge is diffused widely through all classes of society, and is yet to be diffused far more widely. An unprecedented demand for useful information is every where made. Through the instrumentality of the press, and the modern engines of swift conveyance, sympathies are established between individuals, and between communities of individuals, who entertain similar sentiments, though residing in opposite hemispheres. It is a remarkable illustration of this, that the friends of freedom and knowledge throughout the globe, seem now to constitute but one great party. Wherever a struggle is made for liberty, wherever a contest is begun with that worst of tyrants, ignorance,—that spot concentrates and fixes the attention of multi-

tudes in every civilized nation. Unnumbered minds watch the progress of the contest, with deep anxiety. Thus a universal public opinion is formed. This opinion has strength in its own nature. It is spiritual, wide-reaching, and mighty. It dethrones kings, it abrogates laws, it changes customs. It is stronger than armies. Barriers and *cordons* cannot shut it out. Fortresses and citadels are no defence against it. It spreads every where, and conquers wherever it spreads. God grant, that it may continue to spread and to conquer, till every throne of tyranny shall be overturned, and every altar of superstition broken down!

But the most wonderful consequence resulting from the introduction of machinery is, that it has, to all intents and purposes, greatly prolonged the term of human existence. This is not fancy, but fact; not imagination, but reality. Human life should be measured by deeds, rather than by years. He lives long, who accomplishes much; and he lives longer than other men, who accomplishes more than they. And how much more can he accomplish, whose active existence is but beginning now, than was performed, or could have been performed by one, who lived fifty years ago! The multiplied facilities of intercourse, and the cunningly abbreviated methods of doing every thing at the present day, have introduced extraordinary despatch into all the operations of life, and increased a hundred fold the active power of each individual. Whole communities feel the power of these strong exciting influences. Not only are more important and numerous private acts performed by individuals, than have ever before been done in the compass of one life, but public events, more astonishing and of greater consequence, than were wont to happen in former times in the course of centuries, are now crowded into the history of a single generation. And when we look around us, and behold these strong agents of improvement, acting, at the present moment, with greater energy than ever, and producing every day still more wonderful results, we confess, we are filled with astonishment and admiration. We do not claim, as we have already said, for machinery, the sole agency in producing these magnificent effects. We know that they are principally owing to the operation of moral causes. But we say, that it is machinery, which has removed obstructions out of the way of their action, and brought them into contact with the objects on which they are to act; and that, without the



aid of machinery, these causes, whatever inherent energy they might possess, could have produced little or no effect on the condition of society.

We have mentioned some of the general results, which machinery has contributed to produce. There is one particular consequence, that should never be forgotten when machinery is spoken of. It was the inventions of two mechanics, that carried England triumphantly through the contest with Napoleon. Arkwright invented a machine for spinning cotton, and Watt perfected the application of steam power to manufacturing purposes. These inventions conquered Bonaparte. They enabled Great Britain to manufacture for the world. Wealth flowed into her treasury in copious streams, from every quarter. With this wealth she maintained her own armies, and subsidized those of almost all the nations on the continent. She took the lead in the struggle that ensued, and maintained it, until the battle of Waterloo finally decided the fate of Napoleon and of Europe. These inventions made no great show. They attracted little of popular admiration. No laurels bound the brows of the inventors, though, in our esteem, they were far worthier of the laurel wreath, than the proudest conqueror that ever desolated the earth. Their names have not been blazoned in song. The historian honors them but with a cursory notice. Yet did these men, by their astonishing genius, confer on England power to control the issue of the most momentous and fearful struggle, that ever put in peril the best interests of man.

How does machinery produce these almost miraculous results? How long have these strong influences been acting on society? A few words by way of answer to these questions, shall conclude this article. We have already remarked, that the invention of some machines of a simple construction, is dated far back in remote antiquity; but these were all helps to individual labor, and are never thought of now, when machinery is named. Then, almost every thing was done by hand. Navigation clung timidly to the shore. Labor performed its task tediously and imperfectly. Knowledge was diffused in scanty measures and by tedious processes. Human improvement advanced, if indeed it did advance, imperceptibly. It is but recently, that any great change has taken place. The era of machinery may be said to have commenced within the last fifty years. Man has called upon the

unwearied powers of nature to bear his burdens, and they have obeyed the call. Whatever agency expands, contracts, impels, retards, uplifts, or depresses, is set at work. We confine elasticity in our watches, and bid it measure our time. With pulleys and levers, we compel gravitation to undo its own work. We arrest the water as it flows onward to the ocean. It must do so much spinning, so much weaving, or so much grinding, before it can be allowed to pass on. With the help of pumps and other machinery, we force the very atmosphere we live in, to raise our water from the wells and from the rivers, and to aid in an uncounted and countless variety of other operations. Last, and most wonderful of all, by the application of fire we transform water into that most potent of all agents, steam. Man, as it were, yokes the hostile elements of fire and water, and subjects them to his bidding. It is hardly a metaphor, to call steam the vital principle, the living soul of modern machinery. There is hardly any sort of work, in which this mighty agent may not be employed. It is equal to the vastest operations, and it will perform the most minute. It delves in the mines, it lifts the ore to the surface, and converts it into a thousand forms. It helps to make the engine, which it afterwards inhabits. It brings the cotton to the manufactory, picks it, cards it, spins it, weaves it, stamps it, and then distributes the fabrics for sale. It works on the land and on the water, on the rivers and on the seas. It is found on the Rhine and on the Danube, driving huge fabrics impetuously along through the echoing forests, and by the old castles of chivalrous ages, accustomed to behold far different scenes; and it performs on land the work of many thousand hands. It quickens the activity of commerce on the Indian seas, at the very moment when it is doing the same on the Mississippi and the Ohio. Invention seems to rest from the effort to discover new forces, and to bend all her energies to multiply the applications of this. Friction and gravity alone continue to oppose the dominion of steam over space. Numberless subtle contrivances have been resorted to, to evade the power of these stubborn antagonists of motion. Railways are constructed, stretching over mountains and plains, linking together and making near neighbors of distant territories. Long trains of cars, moving on wheels so peculiarly constructed, that their friction is scarcely perceptible, are placed on them. The horse is unharnessed. He is too slow and too weak to per-

form the required service. At command, the whole moves, hurrying on, under the strong impulse of an invisible power, with a velocity that defies description. The lover need no longer pray for wings to bear him through the air. A railway car will bear him swifter than the swiftest wing. The exclamation of the poet no longer startles us. His description of the physical achievements of man's 'genius, spirit, power,' are no longer extravagant. It falls far short of the reality.

'Look down on Earth!—What seest thou?—Wondrous things!  
 Terrestrial wonders that eclipse the skies!  
 What lengths of labored lands! What loaded seas!  
 Loaded by man for pleasure, wealth or war!  
 Seas, winds and planets, into service brought,  
 His art acknowledge, and subserve his ends.  
 Nor can the eternal rocks his will withstand;  
 What levelled mountains! and what lifted vales!  
 High through mid air, *here*, streams are taught to flow;  
 Whole rivers, *there*, laid by in basins, sleep.  
*Here*, plains turn oceans; *there*, vast oceans join  
 Through kingdoms, channelled deep from shore to shore.  
 Earth's disembowelled! Measured are the skies!  
 Stars are detected in their deep recess!  
 Creation widens! Vanquished Nature yields!  
 Her secrets are extorted! *Art* prevails!  
 What monument of genius, spirit, power!'

This was a just description when it was written; and it describes splendid triumphs of the intellect over matter. Let our readers add to it all the wonders which have been achieved by steam, and they will have a tolerably accurate idea of what the mechanical powers have done, and are doing for man.

We subjoin a striking passage from Cicero's eloquent treatise *De Natura Deorum*, descriptive of the extent of man's dominion over matter in his day, with the view of enabling our readers to compare the present with the former condition of our race in this respect.

'Jam vero operibus hominum, id est, manibus, cibi etiam varietas invenitur, et copia. Nam et agri multa ferunt manu quæsitæ, quæ vel statim consumantur, vel mandentur condita vetustati. Et præterea vescimur bestiis, et terrenis, et aquatilibus, et volatilibus, partim capiendo, partim alendo. Efficimus etiam domitu nostro quadrupedum vectiones: quorum celeritas, atque vis, nobis ipsis affert vim, et celeritatem. Nos onera quibusdam bestiis, nos juga imponimus: nos elephantorum acutissi-

mis sensibus, nos sagacitate canum, ad utilitatem nostram abutimur : nos e terræ cavernis ferrum elicimus, rem ad colendos agros necessariam : nos æris, argenti, auri venas, penitus abditas, invenimus, et ad usum aptas, et ad ornatum decoras : arborum autem consectione, omnique materia, et culta, et silvestri, partim ad calefaciendum corpus, igni abhibito, et ad mitigandum cibum utimur : partim ad ædificandum, ut tectis septi, frigora caloresque pellamus. Magnos vero usus affert ad navigia facienda, quorum cursibus suppeditantur omnes undique ad vitam copię ; quasque res violentissimas natura genuit, earum moderationem nos soli habemus, maris, atque ventorum, propter nauticarum rerum scientiam : plurimisque maritimis rebus fruimur, atque utimur. Terrenorum item commodorum omnis est in homine dominatus. Nos campis, nos montibus fruimur : nostri sunt amnes, nostri lacus : nos fruges serimus, nos arbores : nos aquarum inductionibus terris fecunditatem damus ; nos flumina arcemus, dirigimus, avertimus ; nostris denique manibus in rerum natura quasi alteram naturam efficere conamur.'

---

ART. XI.—*Military Academy.*

*Reports of the Boards of Visitors of the Military Academy at West Point, in June, 1830, and June, 1831.*

Those who have been accustomed to observe the progress, and reflect upon the tendency of our institutions, have doubtless remarked the rapid progress of the Military Academy at West Point in the public estimation ; nor can they have failed to notice the important position which it now occupies, among those objects that ought to be well understood by all who pretend to a knowledge of our national policy, and of the means by which that policy can best be cherished and sustained.

The comprehensive mind of Washington first suggested the necessity of an establishment, where a portion of our youth might be constantly employed in acquiring such fundamental principles of knowledge, as are generally esteemed indispensable for the attainment of much proficiency in the science of modern warfare. The views of Mr. Adams were in harmony with those of General Washington on this subject, but circumstances prevented their consummation during the administration of either ; nor was this finally accomplished, until Mr. Jefferson was placed at the head of the Government. Under his fostering care, this noble seminary was first organized, though on a